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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/584,847

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Bertus Noordam

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23117

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EXAMINER

KING, FELICIA C

ART UNIT

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1794

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/584,847	<b>Applicant(s)</b> NOORDAM ET AL.	
	<b>Examiner</b> FELICIA C. KING	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 19-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 19-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

This Office Action is written in response to Applicants' Remarks filed 9/23/09.

#### ***Claim Rejections - 35 USC § 103***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. **Claims 1-7, 10, 19, 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanekawa et al. (US 4,303,680).**

**Regarding Claims 1, 2, 5, 6, 7, 19, 20-22:** Tanekawa discloses a method for making a flavorful 5' – ribonucleotide by autolysing yeast cells to the point where 50% to 80% of the RNA remain not decomposed (in degradable form, associated with the cell wall) in the cell wall [col. 2, lines 32-36, 12-15; col. 3, lines 31-40], extracting (recovering) RNA from the autolysed yeast before separating it from the cell wall portions [col. 4, lines 13-16] and where the RNA is converted to 5'-ribonucleotides in the presence of cell wall residue and where the cell wall residue is separated after the RNA conversion [col. 4, lines 16-18; Claim 1] but does not disclose where the autolysate is subjected to a solid/liquid separation in order to recover RNA portion.

At the time of the invention, it would have been obvious to one of ordinary skill in the art having the teachings of Tanekawa to modify the process of Tanekawa to include a step where the autolysate is centrifuged in order to obtain the cell wall portion because as disclosed in Tanekawa, the cell wall portion contains 50%-80% intracellular RNA which is only partially decomposed and thus it would have been obvious to centrifuge and recover the portion containing abundant and intact RNA.

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**Regarding Claims 3 and 4:** Tanekawa discloses where the autolysis is initiated by enzymatically disrupting the cells walls by activating endogenous enzymes [col. 3, lines 62-65] where it is well known in the art that autolysis means “self splitting”.

**Regarding Claim 10:** Tanekawa discloses converting RNA to 5'-ribonucleotides by 5'-phosphodiesterase and if desired with 5'-phosphodiesterase and deaminase [col. 4, lines 20-25].

**3. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanekawa et al. (US 4,303,680) and further in view of Halasz (1991 CRC Press, Inc pg. 248).**

**Regarding Claim 8 and 9:** Tanekawa discloses a method of making a flavorful 5' – ribonucleotide by autolysing yeast cells as discussed above but does not disclose subjecting the autolysate to ultrafiltration and where after the autolysate is ultrafiltered the RNA containing cell wall and RNA recovered from the soluble fraction are converted to 5'-ribonucleotides. However, Halasz discloses yeast extracts that are produced by ultrafiltering autolysates [pg. 248].

At the time of the invention, it would have been obvious to one of ordinary skill in the art having the teachings of Tanekawa and Halasz before him or her to modify the process of Tanekawa to include a step where the autolysate is subjected to ultrafiltration prior to enzyme conversion because Halasz discloses that ultrafiltration eliminates or reduces the amount of proteins and components that contribute to bitterness in yeast extract thereby producing a more organoleptically appealing composition.

**4. Claims 1-7, 10, 19, 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanekawa et al. (US 4,303,680) and in further view of Morishige (US 4,851,390).**

**Regarding Claims 1, 2, 5, 6, 7, 19, 20-22:** Tanekawa discloses a method for making a flavorful 5' – ribonucleotide by autolysing yeast cells to the point where 50% to 80% of the RNA remain not decomposed (in degradable form, associated with the cell wall) in the cell wall [col. 2,

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lines 32-36, 12-15; col. 3, lines 31-40], extracting (recovering) RNA from the autolysed yeast before separating it from the cell wall portions [col. 4, lines 13-16] and where the RNA is converted to 5'-ribonucleotides in the presence of cell wall residue and where the cell wall residue is separated after the RNA conversion [col. 4, lines 16-18; Claim 1] but does not disclose where the autolysate is subjected to a solid/liquid separation in order to recover RNA portion. However, Morishige discloses a method of producing a nutritional RNA extract where the initial steps consist of treating yeast and then centrifuging the yeast and recovering the precipitated fraction (solid fraction) and subjecting the solid fraction containing the RNA to further experimentation [col. 2, lines 12-14, 25-28].

At the time of the invention, it would have been obvious to one of ordinary skill in the art having the teachings of Tanekawa and Morishige before him or her to modify the process of Tanekawa to include a step where the autolysate is centrifuged in order to obtain the cell wall portion because as disclosed in Tanekawa, the cell wall portion contains 50%-80% intracellular RNA which is only partially decomposed and because the centrifuged portion is composed mainly of RNA [col. 2, lines 25-28] thus it would have been obvious to centrifuge and recover the portion containing abundant and intact RNA.

**Regarding Claims 3 and 4:** Tanekawa discloses where the autolysis is initiated by enzymatically disrupting the cells walls by activating endogenous enzymes [col. 3, lines 62-65] where it is well known in the art that autolysis means "self splitting".

**Regarding Claim 10:** Tanekawa discloses converting RNA to 5'-ribonucleotides by 5'-phosphodiesterase and if desired with 5'-phosphodiesterase and deaminase [col. 4, lines 20-25].

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**5. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanekawa et al. (US 4,303,680) and Morishige (US 4,851,390) as applied to claim 1 above and in further view of Halasz (1991 CRC Press, Inc pg. 248).**

**Regarding Claim 8 and 9:** Tanekawa teaches a method of making a flavoring 5' – ribonucleotide by autolysing yeast cells as discussed above but does not disclose subjecting the autolysate to ultrafiltration and where after the autolysate is ultrafiltered the RNA containing cell wall and RNA recovered from the soluble fraction are converted to 5'-ribonucleotides. However, Halasz discloses yeast extracts can be produced by ultrafiltering autolysates [pg. 248].

At the time of the invention, it would have been obvious to one of ordinary skill in the art having the teachings of Tanekawa, Morishige, and Halasz before him or her to modify the process of Tanekawa to include a step where the autolysate is subjected to ultrafiltration prior to enzyme conversion because Halasz discloses that ultrafiltration eliminates or reduces the amount of proteins and components that contribute to bitterness in yeast extract thereby producing a more organoleptically appealing composition.

### ***Double Patenting***

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with

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this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1, 4, 7, and 10 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 6, 8, 9, 11, 13, 20, 26, 27 and 30 of copending Application No. 10/541,194. Although the conflicting claims are not identical, they are not patentably distinct from each other because both applications are directed towards a method for producing a 5'-ribonucleotide composition where a microorganism is treated to release cell contents where the instant application calls this process autolysis. Utilizing and converting RNA released from cell wall material. Further both applications aim to convert RNA to 5'-ribonucleotides by using 5'-phosphodiesterase or both 5'-phosphodiesterase and deaminase.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Response to Arguments***

8. Applicant's arguments with respect to claims 1-10, and 19-22 have been considered but are moot in view of the new ground of rejection of claim 4 and new double patenting rejections. Claim 4 was previously rejected under Tanekawa et al. (US 4,303,680) as evidenced by Halasz (1991 CRC Press, Inc pg. 248) and is newly rejected under Tanekawa. Claims 1-10, and 19-22 have been alternatively rejected under Tanekawa and secondary references Morishige (US 4,851,390) and Halasz (1991 CRC Press, Inc pg. 248).

9. Further, on page 6 of Applicants Remarks, Applicants assert that the RNA containing cell wall portion is recovered in claim 1 and that portion is converted to 5'-ribonucleotides and in contrast the RNA in Tanekawa is from the removed cell wall fraction. Examiner disagrees because

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Tanekawa explicitly discloses that the RNA conversion can occur in the presence of the cell wall fraction and that after the conversion, the cell wall portion can be removed by filtering or centrifugation as discussed above in claim 1. Therefore Tanekawa is commensurate with the claims because the cell wall portion can be acted upon by the 5'-phosphodiesterase or both 5'-phosphodiesterase and deaminase. It appears that the time for the removal of the cell wall portion is based upon the method desired by the experimenter.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FELICIA C. KING whose telephone number is (571)270-3733. The examiner can normally be reached on Mon- Thu 7:30 a.m.- 5:00 p.m.; Fri 7:30 a.m. - 4:00 p.m. alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/F. K./

Examiner, Art Unit 1794

/Jennifer McNeil/

Supervisory Patent Examiner, Art Unit 1794